STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

Washington State Energy Code Development

Standard Energy Code Proposal Form

Log No. 158 TAG Revision 7/9/21

Code being amended: ☐ Commercial Provisions ☐ Residential Provisions

Code Section # _C402.1.1.2_____

Brief Description: Remove heat pump heating from the qualifications for semi-heated space.

Also, phrase added to infrared heating exception, clarifying that the insulation and occupant sensors required elsewhere in the code for radiant heaters are also applicable here.

Proposed code change text: (Copy the existing text from the Integrated Draft, linked above, and then use underline for new text and ~~strikeout~~ for text to be deleted.)

C402.1.1.2 Semi-heated buildings and spaces. The building envelope of *semi-heated* buildings, or portions thereof, shall comply with the same requirements as that for conditioned spaces in Section C402, except as modified by this section. The total installed output capacity of mechanical space conditioning systems serving a *semi-heated* building or space shall comply with Section C202. Building envelope assemblies separating conditioned space from semi-heated space shall comply with the exterior envelope insulation requirements. Semi-heated spaces heated by mechanical systems that do not include electric resistance heating equipment are not required to comply with the opaque wall insulation provisions of Section C402.2.3 for walls that separate semi-heated spaces from the exterior or low energy spaces. Fenestration that forms part of the *building thermal envelope* enclosing semi-heated spaces shall comply with Section C402.4. Semi-heated spaces shall be calculated separately from other conditioned spaces for compliance purposes.

Opaque walls in semi-heated spaces shall be calculated as fully code compliant opaque walls for both the target and proposed for the Target UA calculations for the component performance alternative in Section C402.1.5, and for the ~~Standard Reference~~Baseline Building Design for Total Building Performance compliance per Section C407. The capacity of heat trace temperature maintenance systems complying with Section C404.7.2 that are provided for freeze protection of piping and equipment only, shall not be included in the total installed output capacity of mechanical space conditioning systems.

Exception: Building or space may comply as *semi-heated* when served by ((~~one or more of~~)) the following system ((~~alternatives~~)) alternative:

1. Electric infrared heating equipment, not to exceed 8 BTUH per square foot total heating capacity, for localized heating applications, but not for general area heating, insulated in compliance with Section C402.2.8 and controlled by occupant sensing devices in compliance with Section C403.11.1.

((~~2. Heat pumps with cooling capacity permanently disabled, as pre-approved by the jurisdiction.~~))

Purpose of code change:

2018 code allows any space heated by heat pump to be considered "semi-heated" and thus not require full wall insulation. This is an unnecessary loophole, especially as heat pump space heating becomes dominant.

Your amendment must meet one of the following criteria. Select at least one:

- ☐ Addresses a critical life/safety need.
- ☐ The amendment clarifies the intent or application of the code.
- ☒ Addresses a specific state policy or statute. (Note that energy conservation is a state policy)
- ☐ Consistency with state or federal regulations.
- ☐ Addresses a unique character of the state.
- ☒ Corrects errors and omissions.

Check the building types that would be impacted by your code change:

- ☐ Single family/duplex/townhome
- ☐ Multi-family 1 – 3 stories
- ☐ Multi-family 4 + stories
- ☒ Commercial / Retail
- ☐ Institutional
- ☒ Industrial

Your name	Duane Jonlin	Email address	duane.jonlin@seattle.gov
Your organization	City of Seattle	Phone number	206-233-2781
Other contact name	-		

Economic Impact Data Sheet

Briefly summarize your proposal's primary economic impacts and benefits to building owners, tenants and businesses.

This proposal eliminates a code loophole that could potentially allow a wide range of buildings to have substandard wall insulation.

Provide your best estimate of the construction cost (or cost savings) of your code change proposal? (See OFM Life Cycle Cost **Analysis tool** and **Instructions;** use these **Inputs**. **Webinars on the tool can be found Here and Here**)

$Zero to $1/square foot

Show calculations here, and list sources for costs/savings, or attach backup data pages

- For the great majority of projects, zero cost.
- For projects that would have used this loophole to reduce wall insulation, estimate $1.00/ square foot.

Provide your best estimate of the annual energy savings (or additional energy use) for your code change proposal?

Click here to enter text.KWH/ square foot (or) Zero – 1 KBTU/ square foot

- For the great majority of projects, zero savings.
- For projects that would have used this loophole to reduce wall insulation, estimate zero to 1 kBTU/ sf/year.

Show calculations here, and list sources for energy savings estimates, or attach backup data pages

List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application: (None)

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.